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** Copies not attached as previously submitted to or cited by the USPTO in grandparent application US 08/112,767

PTO/RSB/08A (10-01)

Approved for use through 10/31/2002, OMB 0351-0031

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| Substitute for form 1449A/PTO | | Complete If Known | |
| INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary) | | Application Number | 10/693977 |
| | | Filing Date | |
| | | First Named Inventor | Kia Silverbrook |
| | | Art Unit | |
| | | Examiner Name | |
| Sheet 1 of 8 | Attorney Docket Number | ZG001US | |

| U.S. PATENT DOCUMENTS | | | | | |
|-----------------------|----------|---|--------------------------------|--|---|
| Examiner Initials | Cite No. | Document Number Number - Kind Code* (if known) | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
| EC | | US-5,697,144 * | 12.16.1997 | Mitani, et al | |
| | | US-5,719,604 | 02.17.1998 | Inui, et al | |
| | | US-5,666,141 | 09.09.1997 | Matoba, et al | |
| | | US-4,672,398 | 06.09.1987 | Kuwabara, et al | |
| | | US-4,737,802 | 04.12.1988 | Mielke | |
| | | US-5,029,805 | 07.09.1991 | Albarras, et al | |
| | | US-5,258,774 | 11.02.1993 | Rogers | |
| | | US-4,553,383 | 11.19.1985 | Ruoff | |
| | | US-4,884,824 | 09.12.1989 | Gabriel, et al | |
| V | | US-4,423,401 | 12.27.1983 | Muefner | |
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| FOREIGN PATENT DOCUMENTS | | | | | | |
|--------------------------|----------|--|--------------------------------|--|---|----------------|
| Examiner Initials | Cite No. | Foreign Patent Document Country Code - Number - Kind Code* (if known) | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | T ² |
| EC | | EP 0 416 540 A2 * | 13.03.1991 | Usui et al | | |
| | | EP 1 057 637 * | 12.06.2000 | Canon KK | | |
| | | EP 1 057 639 * | 12.06.2000 | Canon KK | | |
| | | WO 00/48938 * | 08.24.2000 | Silverbrook | | |
| | | JP 4 04001051 A ** | 01.06.1992 | Kornal | | |
| | | EP 0 713 774 A2 | 05.29.1998 | Sharp Kabushiki | Kaisha | |
| | | DE 195 16 997 | 11.16.1995 | Sharp KK | | |
| | | DE 198 23 620 A1 | 12.19.1998 | Sharp KK | | |
| V | | JP 2 108544 (Abstract) | 04.20.1990 | Seiko Epson Corp | | |
| EC | | JP 2 92643 (Abstract) | 04.03.1990 | Seiko Epson Corp | | |

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| Examiner Signature | E. Chen | Date Considered | 6/29/05 |
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| | | | | Application Number | |
| | | | | Filing Date | |
| | | | | First Named Inventor | |
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| Sheet | 3 | of | 8 | Attorney Docket Number | |
| | | | | Kia Silverbrook | |
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| FOREIGN PATENT DOCUMENTS | | | | | | |
|--------------------------|----------|--|--------------------------------|--|---|----|
| Examiner Initials | Cite No. | Foreign Patent Document Country Code # Number # Kind Code # (Event) | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | T# |
| EC | | JP 04 126255 (Abstract) | 04.27.1992 | Seiko Epson Corp | | |
| | | GB 2 262 152 | 08.09.1993 | Willatt Int Ltd | | |
| | | DE 195 16 997 | 11.16.1995 | Sharp KK | | |
| | | JP 05 318724 (Abstract) | 12.03.1993 | Seikosha Co Ltd | | |
| | | JP 02 162049 (Abstract) | 08.21.1990 | Seiko Epson Corp | | |
| | | DE 32 45 283 | 08.07.1984 | Siemens AG | | |
| | | JP 04 368851 (Abstract) | 12.21.1992 | Seiko Epson Corp | | |
| | | JP 02 158348 (Abstract) | 06.18.1990 | Minolta Camera Co Ltd | | |
| | | JP 03 112662 (Abstract) | 05.14.1991 | Seiko Epson Corp | | |
| | | JP 03 653348 (Abstract) | 03.20.1991 | Matsumushita Electric Ind Co | | |

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| Examiner Signature | <i>Circ Chen</i> | Date Considered | 6/29/05 |
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| Examiner Signature | <i>Eric Chen</i> | Date Considered | <i>6/29/05</i> |
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| | | First Named Inventor | Kia Silverbrook |
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| | | Examiner Name | |
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| U.S. PATENT DOCUMENTS | | | | | |
|-----------------------|----------|---|--------------------------------|--|---|
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| FOREIGN PATENT DOCUMENTS | | | | | |
|--------------------------|----------|--|--------------------------------|--|---|
| Examiner Initials | Cite No. | Foreign Patent Document Country Code ³ - Number ⁴ - Kind Code ⁵ (if known) | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
| EC | | WO 94 18010 | 08.18.1994 | Domino Printing Sciences PLC | |
| | | EP 0 398 031 | 11.22.1990 | Seiko Epson Corp | |
| | | EP 0 427 291 | 05.15.1991 | Seiko Epson Corp | |
| | | JP 01 115639 (Abstract) | 05.08.1989 | Ricoh Co Ltd | |
| | | JP 58 116165 (Abstract) | 07.11.1983 | Canon K.K. | |
| | | EP 0 827 314 | 12.07.1994 | Olivetti Canon Ind SPA | |
| | | JP 61 268453 (Abstract) | 11.27.1986 | Olympus Optical Co Ltd | |
| | | JP 04 118241 (Abstract) | 04.20.1992 | Seiko Epson Corp | |
| | | EP 0 508 232 | 09.30.1992 | Videojet Systems Int, Inc | |
| EC | | JP 07 314685 (Abstract) | 12.05.1995 | Canon Inc | |

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PTO/SB/03A (10-01)

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| | | Art Unit | |
| | | Examiner Name | |
| Sheet 6 of 8 | Attorney Docket Number | ZG001US | |

| U.S. PATENT DOCUMENTS | | | | | |
|-----------------------|---------------|--|--------------------------------|--|---|
| Examiner Initials | Cite No. 1 | Document Number Number - Kind Code 2 (if known) | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
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| FOREIGN PATENT DOCUMENTS | | | | | |
|--------------------------|---------------|---|--------------------------------|--|---|
| Examiner Initials | Cite No. 1 | Foreign Patent Document Country Code 3 - Number 4 - Kind Code 5 (if known) | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
| EC | | JP 03 180350 | 08.06.1991 | Seiko Epson Corp | |
| | | WO 97 12689 | 04.10.1997 | The Board of Trustees of the Leland Stanford University | |
| | | JP 02 050841 (Abstract) | 02.20.1990 | Seiko Epson Corp | |
| | | EP 0 510 648 | 10.28.1992 | Ivri Yehuda | |
| | | JP 05 28765 (Abstract) | 10.29.1993 | Canon Inc | |
| | | JP 04 141429 (Abstract) | 05.14.1992 | Seiko Epson Corp | |
| | | JP 01 105748 (Abstract) | 04.24.1989 | Ricoh Co. Ltd | |
| EC | | GB 792 145 | 03.19.1958 | Technograph Printed Circuits Ltd | |
| | | EP 0 750 993 | 01.02.1997 | Canon K.K. | |

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| Examiner Signature | <i>Eve Chun</i> | Date Considered | 6/29/05 |
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| | | First Named Inventor | Kia Silverbrook |
| | | Group Art Unit | |
| | | Examiner Name | |
| (use as many sheets as necessary) | | Attorney Docket Number | ZG001US |
| Sheet | 8 | of | 8 |

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| EC | | Derwent Abstract Accession No. 2000-405730/35, Class P75;T04, JP 2000141656 A (Ricoh KK) May 23, 2000 * | |
| | | NOWOROLSKI, J. MARK et al, "Process for in-plane and out-of-plane single-crystal-silicon thermal microactuators". Sensors and Actuators, A, CH, Elsevier/Sequoia S.A., Lausanne, Vol 55, no. 1, 15 July 1996, pp 65-69, XP004077979 ISSN: 0924-4247. | |
| | | ATAKA, MANABU et al, "Fabrication and Operation of Polyimide Bimorph Actuators for Ciliary Motion System". Journal of Microelectromechanical Systems, US, IEEE Inc, New York, Vol. 2, no. 4, 1 December 1993, pp 146-150, XP000443412, ISSN: 1057-7157. | |
| EC | | YAMAGATA, YUTAKA et al, "A Micro-Mobile Mechanism Using Thermal Expansion and its Theoretical Analysis". Proceeding of the workshop on micro electro mechanical systems (MEMS), US, New York, IEEE, Vol. Workshop 7, 25 January 1994, pp 142-147, XP000528408, ISBN: 0-7803-1834-X. | |
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| Examiner Signature | <i>Cie Chun</i> | Date Considered | 6/29/05 |
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